This application claims priority to French Application 97-0916 filed on July 16, 1997 and international application PCT/FR98/01556, filed on July 16, 1998, designating the United States of America, and published on January 28, 1999, in the French language in accordance with PCT Article 21(2) as WO 99/03890.

Please replace the Paragraph starting on page 2, line 16 with the following:

More particularly, the present invention relates to a peptide or polypeptide having the formula:

-W-S-$A_1$-C-S-$A_2$-C-G- (SEQ ID NOS: 1 and 25-49)

in which $A_1$ and $A_2$ are amino acid sequences comprising 1 to 5 amino acids, with the exception of the peptides or polypeptides having one of the following sequences

-W-S-P-C-S-V-T-C-G- (SEQ ID NO: 2)

-W-S-S-C-S-V-T-C-G- (SEQ ID NO: 3)

-W-S-Q--C-S-V-T-C-G- (SEQ ID NO: 4)

Please replace the paragraph starting on page 3, line 18 with the following:

Preferably, the peptides according to the present invention $A_1$ is proline or $X_1$-W-$X_2$-$X_3$ (SEQ ID NOS: 5 and 50-59) where $X_1$, $X_2$, $X_3$ are chosen, independently of each other, from G, S and C, that is to say small amino acids.

Please replace the paragraph starting on page 3, line 23 with the following:

Still preferably, $A_1$ is $X_1$-W-S-$X_3$ (SEQ ID NOS: 6 and 60-64) and $A_2$ is chosen from RS, VS and VT.

Please replace the paragraph starting on page 3, line 27 with the following:

Preferably, the polypeptide according to the present invention has the following structure:

-W-S-$X_1$-W-S-$X_2$-C-S-$A_2$-C-G- (SEQ ID NOS: 7 and 89-96)

Please replace the paragraph starting on page 3, line 30 with the following:

E6

The preferred peptide has the following structure:

-W-S-G-W-S-S-C-S-R-S-C-G- (SEQ ID NO: 8)

Please replace the paragraph starting on page 3, line 33 with the following:

Preferably, the peptides and polypeptides according to the present invention will have the following structure:

E7

Y-W-S-$A_1$-C-S-$A_2$-C-G-Z (SEQ ID NOS: 9 and 97-168)

in which Y and Z constitute the N- and C-terminal ends of the peptide, or comprise amino acid chains having less than 6 amino acids, or comprise chains of compounds which are not amino acids.

Please replace the paragraph starting on page 7, line 1 with the following:

E8

The most active peptide according to the present invention has the following formula:

Trp-Ser-Gly-Trp-Ser-Ser-Cys-Ser-Arg-Ser-Cys-Gly (SEQ ID NO: 8)

Please replace the paragraph starting on page 7, line 19 with the following:

The cDNA sequence encoding the peptide may be 20 presented in the following manner (SEQ ID NO: 10):

E9

5′ TGG WSN GGN TGG WSN WSN TGY WSN MGN WSN TGY GGN 3′

| | |
|---|---|
| A = Adenosine | W = A or T |
| C = Cytosine | S = G or C |
| G = Guanosine | Y = C or T |
| T = Thymidine | M = A or C |
| N = A, C, G or T | |

Please replace the paragraph starting on page 8, line 1 with the following:

E10

It is on this peptide (SEQ ID NO: 8) that the experiments described below were carried out.

E10

Example 1 : effect of the peptide SEQ ID NO: 8 on the growth of the neurons

Please replace the paragraph starting on page 9, line 20 with the following:

The peptides tested are, in addition to the peptide according to the present invention mentioned above (peptide SEQ ID NO: 8), a second peptide according to the invention having the structure:

E11

W-G-P-C-S-V-S-C-G- (SEQ ID NO: 11)

then 3 peptides for comparison:

D-C-K-D-G-S-D-E- (SEQ ID NO: 12)

R-K-A-R- (SEQ ID NO: 13)

and a mixed sequence of the peptide SEQ ID NO: 8:

S-S-C-R-S-G-C-W-G-S-S-W- (SEQ ID NO: 14).

Please replace the paragraph starting on page 9, line 32 with the following:

In the presence of the peptide SEQ ID NO: 8, the neurons aggregate and are essentially connected by bundles of long and thick neurites after 5 days of culture. Furthermore, these cells adhere well to the substrate coated with the peptide with no detachment of the aggregates. By contrast, the control cell cultures, in the absence of the peptide, rapidly detach from the plastic substrate at 5 days of culture. However, on plastic, only the cortical neurons form aggregates from which very few neurites can be observed, which indicates that the substrate is insufficiently adhesive. The number of neuronal aggregates increases by 9.3% between the control culture and the culture treated with the peptide according to the invention.

E12

Please replace the paragraph starting on page 10, line 12 with the following:

The tests carried out with other peptides in comparison with the peptide SEQ ID NO: 8 at random give no significant result.

E13

Please replace the paragraph starting on page 10, line 15 with the following:

E14 The peptide SEQ ID NO: 11 gives lower but, nevertheless, significant results.

Please replace the paragraph starting on page 10, line 17 with the following:

E15 Likewise, the tests carried out with the peptide SEQ ID NO: 13, which is a consensus sequence for attachment of glycosaminoglycans which is present in a large number of proteins which bind to heparin, as well as the peptides corresponding to type A LDL receptors, gave no representative result.

Please replace the paragraph starting on page 10, line 23 with the following:

E16 Moreover, the effect of the peptides according to the present invention SEQ ID NO: 8 and NO: 11 on cultures at low density was studied. Indeed, it has already been demonstrated that high aggregation could influence neuritic growth in the same manner as the strength of adhesion of the cells to the substrate.

Please replace the paragraph starting on page 10, line 29 with the following:

E17 The tests carried out at low density showed that in the absence of aggregation, the two peptides significantly increased the percentage of neuronal cells carrying neurites. In the controls, only 24.4% of the adherent cells had neurites at 4 days of culture whereas 2 and 2.5 times as many appeared in the presence of the peptides SEQ ID NO: 8 and NO: 11, respectively.

Please replace the paragraph starting on page 10, line 37 with the following:

E18 The morphometric analyses revealed a significant increase in each of them both in the number of neurites per cell and the length of the neurites in the presence of the peptide SEQ ID NO: 8 and not the peptide SEQ ID NO: 11. Under these conditions, this demonstrates that, even in the absence of neuronal. aggregation, the peptide SEQ ID NO: 8 and to a lesser degree the peptide SEQ ID NO: 11 are capable of promoting the adhesion and the neuritic growth of the cortical neuronal cells.

Please replace the paragraph starting on page 11, line 8 with the following:

E 19 The effect of the peptide SEQ ID NO: 8 of the invention was also studied under various experimental conditions:

Please replace the paragraph starting on page 11, line 18 with the following:

The activity of the peptide SEQ ID NO: 8 on the spinal cord cell cultures compared with controls shows that the neurons remain distributed for at least one week in vitro. The neurons show prominent neuritic growths forming a network without fasciculation of the neurites. An increase in the number of synaptic contacts between the neurites is observed. By contrast, the neuronal cells of the controls form, in general, small aggregates interconnected by long filaments. The neurites growing from the aggregates form relatively rigid bundles along which essentially simple, bi- or tripolar neurons can be seen.

E 20

Please replace the paragraph starting on page 11, line 34 with the following:

E 21 **Example 2 : Effect of the peptide SEQ ID NO: 8 on the neuroblastoma derived from NIB104**

Please replace the paragraph starting on page 12, line 5 with the following:

In the presence of the peptide SEQ ID NO: 8 according to the present invention, the NIB104 neuroblastoma cells are considerably less numerous than in the control cultures. The appearance of the cells is considerably modified because they acquire a characteristic neuronal phenotype. Morphometric analysis reveals that in the presence of increasing concentrations of peptide in the culture medium, the neuritic growth gradually increases. This response is therefore dose-dependant and indicative of a specific physiological effect.

E 22

**In the claims:**

Please cancel claim 7.